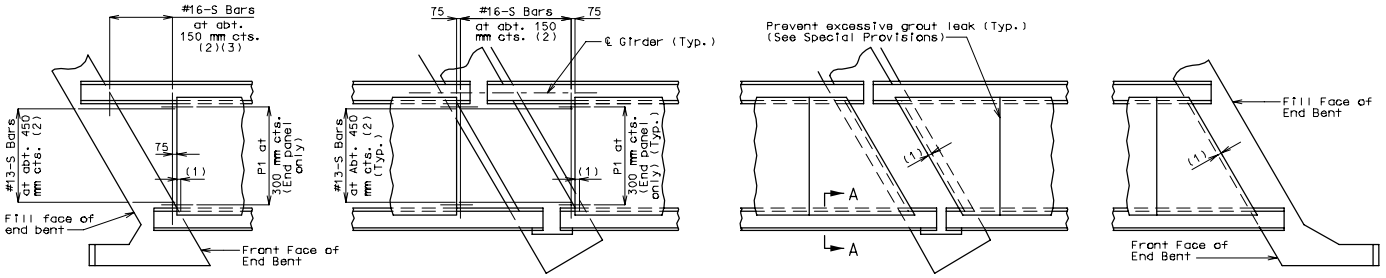
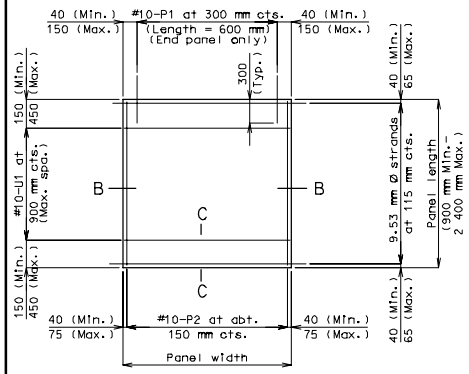
State	Proj. No.	Sheet No.
MD		



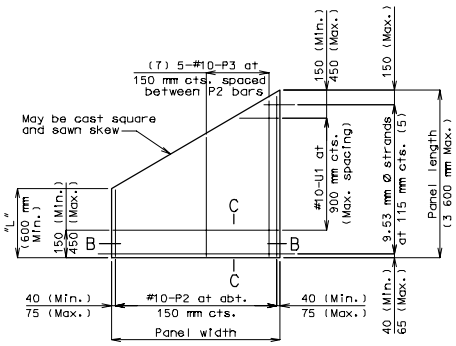
PANELS–SQUARED ENDS

PANELS–SKEWED ENDS

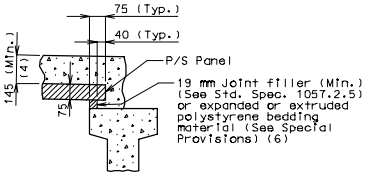
PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



PLAN OF PRECAST PRESTRESSED PANEL

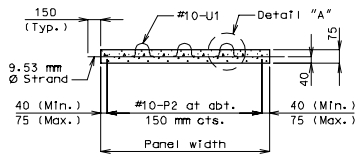


PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)

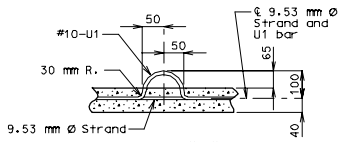


SECTION A-A

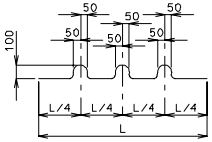
Note: Use slab haunching diagram on sheet No. XX for determining thickness of joint filler or polystyrene bedding material within the limits noted in general notes.



SECTION B-B



DETAIL "A"



BENDING DIAGRAM FOR U1 BAR

(U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars).

SECTION C-C

NOTES:

Cost of S-bars shall be included in the price bid for Slab on Concrete I-Girder per square meter.

S-bars are not listed in the bill of reinforcing.

(1) End panels shall be dimensioned 25 mm minimum to 40 mm maximum inside the face of the diaphragm.

(2) S-bars shown are bottom steel in slab between panels and used with squared end panels only.

(3) Extend S-Bars 500 mm beyond the front face of end bents only.

(4) In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(5) Any strand 610 mm or shorter shall have a #13 reinforcing bar on each side of it, centered between strands. Strands 610 mm or shorter may then be debonded at the fabricator's option.

(6) All panel support pads shall be glued to the girder. When support thickness exceeds 40 mm, the pads shall be glued top and bottom. The glue used shall be the type recommended by the panel support pads manufacturer.

(7) Use #10-P3 bars if panel is skewed 45 degrees or greater.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

GENERAL NOTES:

PRESTRESSED PANELS:

Concrete for prestressed panels shall be Class A1 with f'c = 42 MPa, f'ci = 24.5 MPa.

The top surface of all panels shall receive a scored finish with a depth of scoring of 3 mm perpendicular to the prestressing strands in the panels (See Special Provisions).

Prestressing tendons shall be high-tensile strength uncoated seven-wire (7), low-relaxation strands for prestressed concrete conforming to AASHTO M203M Grade 1860, with nominal diameter of strand = 9.53 mm and nominal area = 54.84 sq. mm and minimum ultimate strength = 102.3 kN (1860 MPa). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 76.5 kN per strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided they are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When square end panels are used at skewed bents, it is required that the skewed portion be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 21 MPa compressive strength.

Minimum joint filler or polystyrene bedding material thickness shall be 19 mm. Thicker joint filler or polystyrene bedding material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness, within tolerances. No more than 50 mm total thickness of joint filler or polystyrene bedding material shall be used.

The same thickness of joint filler material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 6 mm. The polystyrene bedding material may be cut to match haunch height above top of flange.

Slab thickness over prestressed panels varies due to girder camber.

At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

REINFORCING STEEL:

All dimensions are out to out.

Minimum clearance to reinforcing steel shall be 40 mm, unless otherwise shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest 5 mm.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete I-Girder.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Welded wire fabric or welded deformed bar mats providing a minimum area of reinforcing perpendicular to strands of 466 mm²/m, with spacing parallel to strands sufficient to insure proper handling, may be used in lieu of the #10-P2 bars shown. Wire or bar diameter shall not be larger than 10 mm. The above alternative reinforcement criteria may be used in lieu of the #10-P3 bars, when required, and placed over a width not less than 600 mm.

The reinforcing steel shall be tied securely to the 9.53 mm Ø strands with the following maximum spacing in each direction:
#10-P2 bars at 400 mm.
Welded wire fabric or welded deformed bar mats at 600 mm.

Tie the #10-U1 bars to the #10-P2 bars, to the welded wire fabric or the welded deformed bar mats at about 900 mm centers.

All reinforcement other than prestressing strands shall be epoxy coated.

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DETAILS OF PRECAST PRESTRESSED PANELS

Detailed
Checked

Sheet No. of

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